

WHAT IS CLAIMED IS:

1. A process for inhibiting a polymerization in a vacuum section of an easily polymerizable compound purification system, comprising the step of

permitting a gas containing an easily polymerizable compound to flow into a gas and liquid contact chamber from a purifying section, the gas and liquid contact chamber being supplied with a liquid containing a polymerization inhibitor.

2. A process according to claim 1, wherein the vacuum section comprises one or more gas and liquid contact chambers, and the liquid containing the polymerization inhibitor is supplied to the first gas and liquid contact chamber.

3. A process according to claim 1, wherein the vacuum section comprises two or more gas and liquid contact chambers, and the liquid containing the polymerization inhibitor is supplied to the first and the second gas and liquid contact chambers.

4. A process according to claim 1, wherein the gas and liquid contact chamber is a surface condenser, and the inside surface of the condenser is wetted uniformly with the liquid.

5. A process according to claim 1, wherein the gas and liquid chamber is a barometric condenser, and the liquid serves to cool the barometric condenser.

6. A process according to claim 1, wherein the vacuum section comprises a liquid ejector for reducing a pressure of the purifying section.

7. A process according to claim 1, wherein the vacuum section comprises a nash pump for reducing a pressure of the purifying section.

8. A process according to claim 1, wherein the vacuum section comprises a liquid ejector and a nash pump for reducing a pressure of the purifying section.

9. A process according to claim 1, wherein the easily polymerizable compound is (meth)acrylic acid and/or (meth)acrylate.

10. A process according to claim 1, wherein the polymerization inhibitor is at least one selected from the group consisting of hydroquinone, methoquinone, manganese acetate, phenothiazine, nitrosophenol, cupferron, dibutyl dithio carbamic acid copper salt and N-oxyl compounds.

11. A system for purifying an easily polymerizable compound which comprises;

a column for purifying an easily polymerizable compound;

a vacuum portion for vacuuming a gas containing the easily polymerizable compound from the column; and

a liquid supply equipment for supplying a liquid containing a polymerization inhibitor to the vacuum portion to thereby come into contact with the gas.

12. The system according to claim 11, wherein the vacuum portion comprises at least one or more steam ejectors and at least one or more gas and liquid contact chambers.

13. The system according to claim 11, wherein the gas and liquid contact chamber is a barometric condenser, and the liquid serves to cool the barometric condenser.

14. The system according to claim 11, wherein the gas and liquid contact chamber is a surface condenser, and the inside surface of the surface condenser is wetted with the liquid.

15. The system according to claim 11, wherein the vacuum portion comprises a liquid ejector.

16. The system according to claim 11, wherein the vacuum portion comprises a nash pump.

17. The system according to claim 11, wherein the vacuum portion comprises a liquid ejector and a nash pump.

18. The system according to claim 11, wherein the easily polymerizable compound is (meth)acrylic acid and/or (meth)acrylate.

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